Table 4-43. Existing Waste Site Impacts for Each Waste Management Strategy

Environmental Category	No Action	Dedication	Elimination	Combination
Onsite Groundwater	Certain hazardous and radioactive constituents will exceed applicable standards in the tertiary formations. After period of institutional control (100 years), some areas of contaminated groundwater in the tertiary formations would remain. Dedication of these areas of contaminated groundwater would be required at the end of the institutional control period. Very low potential for contamination in the Black Creek and Middendorf Formations.	Site closure (without waste removal) would reduce the mobility and concentrations of contaminants in the groundwater. Post-closure groundwater cleanup, if required, would ensure that groundwater constituents are within regulatory human health and environmental concern by the end of the institutional control period.	Relative to Dedication, waste removal and closure would further reduce the expected peak concentrations of contaminants in the groundwater at some waste sites. Groundwater cleanup, if required, would ensure that groundwater contaminants are below levels of concern by the end of institutional control period.	Post-closure groundwater conditions would not differ significantly from the Elimination strategy. Groundwater cleanup, if required, would ensure that groundwater contaminants are below levels of concern by the end of the institutional control period.
Offsite Groundwater	Offsite groundwater quality is not affected by actions at the SRP. Potentially contaminated groundwater outcrops in onsite streams or the Savannah River before leaving the plant boundary.	No impact.	No impact.	No impact.
Surface Water	Nitrate and tritium plumes are predicted to exceed regulatory limits in Four Mile Creek.	All constituent concentrations in all onsite streams and the Savannah River are predicted to be below regulatory standards.	Same as Dedication.	Same as Dedication.
Radiological Doses	Estimated current total annual offsite dose is 14.4 millirem, below the 100-millirem DOE limit. Onsite peak annual dose after institutional control period is conservatively estimated to be 3900 millirem. Dedication of such areas would be required.	Closure and groundwater cleanup actions would ensure that all doses are below the 100 millirem per year DOE limit.	Same as Dedication.	Same as Dedication.

Table 4-43. Existing Waste Site Impacts for Each Waste Management Strategy (continued)

Environmental Category	No Action	Dedication	Elimination	Combination
Health Effects	No adverse health effects during the period of institutional control. Based on conservative assumptions, adverse health effects could occur as a result of exposures onsite beginning after the period of institutional control (i.e., dedication required).	Appropriate actions (e.g., groundwater cleanup) would be taken to ensure that the concentrations of hazardous and radioactive constituents are reduced to levels that would protect human health and the environment.	Same as Dedication.	Same as Dedication.
Ecology	Offsite ecology is protected. Slight onsite aquatic ecological effects could occur due to concentrations of tritium and nitrate in Four Mile Creek.	Closure and remedial actions would mitigate adverse effects on aquatic ecology. Slight terrestrial ecology effects would occur (e.g, at borrow areas for backfilling and capping waste sites).	Same as Dedication, plus additional effects to terrestrial ecology due to removal and transport of waste to new onsite storage facility.	Same as Elimination, but effects due to waste removal and transport would be limited to the sites selected for waste removal.
Occupational Risks	No significant risk.	Very low potential risk identified only at the M-Area settling basin and vicinity.	Risk is due to atmospheric releases of radioactive materials during waste removal and transport to new storage facility.	Risks described for elimination are limited to the sites selected for waste removal.
Site Dedication	Potentially all existing waste sites discussed in Section 4.2 (about 300 acres) plus a significant amount of adversely impacted areas (see onsite groundwater, radiological doses, and health effects).	Potentially all existing waste sites discussed in Section 4.2. Total required area of dedication is about 300 acres (i.e., less than 0.2 percent of the total area of the SRP).	None.	Sites selected for waste removal would not require dedication. Total required area of dedication is about 270 acres.
Regulatory Compliance	Would not comply with current groundwater protection requirements.	Meets all applicable regulations.	Meets all applicable regulations.	Meets all applicable regulations.